

Key Competencies In Mathematics and Statistics

Thinking	<ul style="list-style-type: none"> Solve problems in new situations Challenge assumptions Reflect on learning Ask questions: teacher → student, student → student, student → teacher Challenge assumptions Reflect on learning Think flexibly Make deductions Think logically Think meta-cognitively – think about thinking Question – challenge thinking Co-construct knowledge Justify and verify Synthesise Generalise Use mathematics to model real life and hypothetical situations Create models Investigate Select appropriate methods Discern if answers are reasonable 	<ul style="list-style-type: none"> Interpret Deal with uncertainty and variation Want to know 'why' Prove Make connections Hypothesise Seek patterns and generalisations Explore and use patterns and relationships in data Demonstrate / develop relational understanding Evaluate Estimate Think critically Think strategically Apply Analyse Deduce Design investigations Make decisions Engage in sense making Think creatively Make conjectures Predict / envision outcomes
Using Language, Symbols and Texts	<ul style="list-style-type: none"> Understand mathematics as a language Understand and communicate information and ideas using mathematics Interpret and use mathematical symbols Interpret statistical information Understand coding in number system Know and use mathematical conventions Process and communicate mathematical ideas Know, use and interpret specialised vocabulary Communicate findings 	<ul style="list-style-type: none"> Record mathematical ideas Capture thought processes Use modelling books Use ICT as appropriate Explore different representations Interpret word problems Interpret visual representations such as graphs, diagrams Use appropriate units Demonstrate statistical literacy
Relating to Others	<ul style="list-style-type: none"> Listen actively Accept and value differing viewpoints Share ideas Negotiate meaning Understand others' thinking Accept being wrong as part of learning Explore the approaches, ideas and ways of thinking of others Co-operate 	<ul style="list-style-type: none"> Work in groups Communicate thinking Work cooperatively Debate solutions Compare and Contrast ideas Think / pair / share Take on a range of roles Remain open to learning from others Collaborate
Managing self	<ul style="list-style-type: none"> Have a 'can do' attitude Work independently Remain open to continuous learning Take responsible risks Demonstrate resilience Make decisions Set goals – what do I need to do? Self assessment - What can / can't I do? Manage time effectively Reflect Know own strengths and weaknesses 	<ul style="list-style-type: none"> Set goals Plan Persevere Demonstrate rigour Take ownership of own learning Be self-motivated Rise to new challenges – using appropriate strategies and skills Seek understanding Ask for help if you don't understand Focus on goal / objective
Participating and Contributing	<ul style="list-style-type: none"> Share strategies and thinking Work in groups with everyone contributing Empower and enable others Assist others Contribute to shared vision (learning intentions) Contribute to thinking groups 	<ul style="list-style-type: none"> Take on appropriate roles in different situations Show Commitment Build on prior knowledge Contribute to a culture of inquiry and learning Show awareness of equity Share equipment / resources